Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3 (cancelled).

Claim 4 (currently amended): A system for determining position, speed, direction and size of an object in motion, comprising:

at least two sensors at fixed intervals between each other in at least one sensor arrangement;

at least one processor; and

at least one outcome device;

wherein said at least two sensors send input signals to said at least one processor;

wherein said at least one processor receives input signals from a series of said at least two sensors set at a fixed distance relative to each other, analyzes input signals from pairs of adjacent sensors of said at least two sensors from said at least one arrangement; and send output signal to said at least one outcome device; and

wherein said at least one outcome device performs at least one action according to a set of predetermined rules;

further wherein said at least one processor is able to treat either sensor of each sensor pair as the first or second sensor of said pairs of sensors, and analyzes said signals from said sensor pairs to sense objects in motion along said series of sensors; and

further wherein ~~A processor according to Claim 3,~~ said at least one processor analyzing state of input signals from said pairs of sensors to determine the directions, positions along said series of sensors, speeds, sizes, and numbers of

said objects in motion, said sizes of said objects being relative to said fixed distance between adjacent sensors.

Claim 5 (currently amended): A system for determining position, speed, direction and size of an object in motion, comprising:

at least two sensors at fixed intervals between each other in at least one sensor arrangement;

at least one processor; and

at least one outcome device;

wherein said at least two sensors send input signals to said at least one processor;

wherein said at least one processor receives input signals from a series of said at least two sensors set at a fixed distance relative to each other, analyzes input signals from pairs of adjacent sensors of said at least two sensors from said at least one arrangement; and send output signal to said at least one outcome device; and

wherein said at least one outcome device performs at least one action according to a set of predetermined rules;

further wherein said at least one processor is able to treat either sensor of each sensor pair as the first or second sensor of said pairs of sensors, and analyzes said signals from said sensor pairs to sense objects in motion along said series of sensors; and

further wherein ~~A processor according to Claim 3,~~ said at least one processor sending output signals to at least one outcome device based on said directions, said positions, said speeds, said relative sizes, and said numbers of said objects in motion.

Claim 6 (cancelled).

Claim 7 (currently amended) A method of determining properties of an object moving in a path, said path being monitored by a series of sensors, said method comprising:

receiving signals from said series of sensors as said object passes by each of said series of sensors; wherein said series of sensors is in a substantially linear arrangement;

processing said signals from pairs of adjacent sensors of said series of sensors; wherein each sensor acting simultaneously as the second sensor for a sensor pair and as the first sensor for the next sensor pair, except for the first and last sensor in said series of sensors; and

analyzing states of said signals with respect to time to determine speed, direction, position and size of said object;

wherein ~~A method according to Claim 6,~~ said processing step further comprising:

analyzing signals from said pairs of adjacent sensors, whereby the direction of said object is forward if the second sensor of each of said sensor pair detects a rising edge state while the first sensor of each of said sensor pair is in an on state~~,~~; thereby said second sensor remaining in on state until said first sensor returns to an off state, and said sequential pairs of sensors displaying this pattern of signals in said direction of objection;

wherein said object has just cleared the first sensor; and

wherein the width (w) of said object ~~w~~ is greater than interval (d) between sensors ~~d~~.

Claim 8 (currently amended) A method of determining properties of an object moving in a path, said path being monitored by a series of sensors, said method comprising:

receiving signals from said series of sensors as said object passes by each of said series of sensors; wherein said series of sensors is in a substantially linear arrangement;

processing said signals from pairs of adjacent sensors of said series of sensors; wherein each sensor acting simultaneously as the second sensor for a sensor pair and as the first sensor for the next sensor pair, except for the first and last sensor in said series of sensors; and

analyzing states of said signals with respect to time to determine speed, direction, position and size of said object;

wherein ~~A method according to Claim 6,~~ said processing step further comprises:

analyzing signals from said pairs of adjacent sensors, whereby the direction of said object is reverse if the first sensor of each of said sensor pair detects a rising edge state while the second sensor of each of said sensor pair is in an on state, thereby said first sensor remaining in an on state until said second sensor returns to an off state, and said sequential pairs of adjacent sensors displaying this pattern of signals in said direction of said object;

wherein said object has just cleared second sensor; and

wherein the width (w) of object ~~w~~ is greater than interval (d) between sensors ~~d~~.

Claim 9 (cancelled).

Claim 10 (currently amended): A system for determining size, position, speed and direction of an object in motion, comprising:

at least three sensors at fixed intervals between each other in at least one sensor arrangement;

at least one processor; and

at least one outcome device;

wherein said at least three sensors sending input signals to said at least one processor; said at least one processor analyzing input signals from triplets of three adjacent said sensors from said at least one sensor arrangement; said at least one processor sending output signal to said at least one outcome device;

and said at least one outcome device performing at least one action according to a set of predetermined rules;

wherein ~~A processor according to Claim 9,~~ said at least one processor receiving input signals from a series of at least three sensors set at a fixed distance relative to each other~~,~~; and three adjacent said sensors forming a sensor triplet~~,~~; and

wherein said at least one processor is capable of: processing each sensor in said series of sensors as either the first, second or third sensor of said sensor triplets, and analyzing signals from said triplets of sensors to sense objects in motion along said series of sensors.

Claim 11 (currently amended) A ~~processor~~ system according to Claim 10, wherein said at least one processor analyzing state of input signals from said triplets of sensors to determine the directions, positions along said series of sensors, speeds, sizes, and numbers of said objects in motion, said sizes of said objects being relative to said fixed distance between adjacent sensors.

Claim 12 (currently amended) A ~~processor~~ system according to Claim 10, wherein said at least one processor sending output signals to at least one outcome device based on said directions, said positions, said speeds, said relative sizes, and said numbers of said objects in motion.

Claim 13 (cancelled)

Claim 14 (currently amended): A method of determining properties of an object moving in a path, said path being monitored by a series of sensors, said method comprising:

receiving signals from triplets of adjacent said sensors as said object passes by said sensors;

processing signals from said triplet of sensors; and

analyzing states of said signals with respect to time to determine speed, direction, position and size of said object;

wherein each sensor is simultaneously as the first, second or third sensor for said sensor triplets;

wherein said sensors of said series of sensors are in a substantially linear arrangement; and

wherein ~~A method according to Claim 13,~~ said processing step further comprises analyzing signals from said triplets of sensors, whereby the direction of said object is forward if the first sensor senses said object and before second sensor; and whereby the second sensor senses said object before the third senor of said triplet of sensors.

Claim 15 (currently amended): A method of determining properties of an object moving in a path, said path being monitored by a series of sensors, said method comprising:

receiving signals from triplets of adjacent said sensors as said object passes by said sensors;

processing signals from said triplet of sensors; and

analyzing states of said signals with respect to time to determine speed, direction, position and size of said object;

wherein each sensor is simultaneously as the first, second or third sensor for said sensor triplets;

wherein said sensors of said series of sensors are in a substantially linear arrangement; and

wherein ~~A method according to Claim 13,~~ said processing step further comprises analyzing signals from said triplets of sensors, whereby the direction of said object is reverse if the third sensor senses said object before the second sensor, and whereby the second sensor senses said object before the first sensor of said triplet of sensors.

Claim 16 (original): A method according to Claim 14, said processing step further comprises analyzing signals from said triplets of sensors, whereby

said object in motion in a forward direction,

object has just cleared second sensor

and

size of said object is greater than the interval between adjacent said sensors

but

less than twice the interval between adjacent said sensors,

when

first sensor signals an on state before second sensor signals an on state,

first sensor returns to an off state before third sensor signals a rising edge state

when

second sensor is in an on state,

said second sensor returning to an off state before said third sensor returns to an off state,

subsequent said triplets of sensors reiterating this pattern of signals in said direction of motion of said object.

Claim 17 (original): A method according to Claim 14, said processing step further comprises analyzing signals from said triplets of sensors,

whereby

said object in motion in a forward direction,

object has just cleared second sensor

and

size of said object is greater than twice the interval between adjacent said sensors,

when

first sensor signals an on state before second sensor signals an on state,

first sensor returns to an off state only after third sensor signals a rising edge state

when

second sensor is in an on state,

said second sensor returning to an off state before said third sensor returns to an off state,

subsequent said triplets of sensors reiterating this pattern of signals in said direction of motion of said object.

Claim 18 (original): A method according to Claim 15, said processing step further comprises analyzing signals from said triplets of sensors,

whereby

said object in motion in a reverse direction,

object has just cleared second sensor

and

size of said object is greater than the interval between adjacent said sensors

but

less than twice the interval between adjacent said sensors,

when

third sensor signals and on state before second sensor signals an on state,

third sensor returns to an off state before first sensor signals a rising edge state

when

second sensor is in an on state,

said second sensor returns to an off state before first sensor returns to an off state,

subsequent said triplets of sensors reiterating this pattern of signals in said direction of motion of said object.

Claim 19 (original): A method according to Claim 15, said processing step further comprises analyzing signals from said triplets of sensors,

whereby

said object in motion in a reverse direction,

object has just cleared second sensor

and

size of said object is greater than twice the interval between said sensors,

when

third sensor signals an on state before second sensor signals an on state,

third sensor returns to an off state only after first sensor signals a rising edge state

when

second sensor is in an on state,

said second sensor returning to an off state before said first sensor returns to an off state,

subsequent said triplets of sensors reiterating this pattern of signals in said direction of motion of said object.

Claim 20 (cancelled).

Claim 21 (currently amended): A system ~~further~~ according to Claim ~~2~~ 4, wherein said fixed interval between adjacent sensors may be from 16 to 30 cm.

Claim 22 (currently amended): A system ~~further~~ according to Claim ~~9~~ 10, wherein said fixed interval between adjacent sensors may be from 16 to 30 cm.

Claim 23 (new): A system for determining size, position, speed and direction of an object in motion, comprising:

a series of sensors at a fixed distance relative to each other;

at least one processor; and

at least one outcome device;

wherein said series of sensors send input signals to said at least one processor;

wherein said at least one processor is capable of processing signals from said series of sensors by selecting a reference sensor from said series of sensors and two or more neighboring sensors to form a group of signals, and analyzing said group of signals to sense an object in motion along said sensors, and sending signals to at least one output device based on characteristics of motion of said object; wherein said neighboring sensors not immediately adjacent to said reference sensor; and

wherein said at least one outcome device performs at least one action according to a set of predetermined rules.